

1 CLAIMS

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3 (1). An apparatus for introducing an additive
4 material into a first liquid, the apparatus
5 comprising:
6 a first container for holding the first liquid having
7 an opening closed by a releasable closure,
8 a second container positioned in the first container
9 and containing propellant fluid at a pressure greater
10 than atmospheric pressure, and
11 a tubular conduit having a first end communicating
12 with the second container and a second end
13 communicating with the first container;
14 wherein the conduit contains an additive material
15 adapted to be expelled from the conduit into the
16 first liquid by the entry of the propellant fluid
17 into the conduit on release of the releasable
18 closure;
19 and wherein the conduit is provided with a first
20 valve adjacent to its second end, the first valve
21 being adapted to prevent the passage of said additive
22 material into said liquid when the pressure in said
23 conduit is equal to the pressure in said liquid, and
24 the first valve being adapted to permit the passage
25 of said additive material into said liquid when the
26 pressure in said conduit is greater than the pressure
27 in said liquid.

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29 2. An apparatus according to Claim 1, wherein the
30 liquid is a gel or gel-like material.
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a 1 3. An apparatus according to Claim 1 ~~or~~ 2, wherein
2 the first container is a bottle having a neck, and
3 the second container is provided on the underside of
4 the releasable closure.

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6 4. An apparatus according to Claim 3, wherein the
7 conduit extends below the surface of the first liquid
8 in the bottle.

a 10 5. An apparatus according to Claim 1 ~~or~~ 2, wherein
11 the first container is a can and the releasable
12 closure is a ring pull closure.

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14 6. An apparatus according to Claim 5, wherein the
15 can has a cylindrical wall and two end walls, the
16 second container being attached to the inner surface
17 of one of the end walls.

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19 7. An apparatus according to claim 1 ~~any preceding Claim~~,
20 wherein a second valve is provided in the conduit
21 adjacent to the first end of the conduit, the second
22 valve being adapted to prevent the passage of said
23 additive material into said second container, and the
24 second valve being adapted to permit the passage of
25 said propellant fluid into said conduit when the
26 pressure in said conduit is less than the pressure in
27 said second container.

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29 8. An apparatus according to ~~any preceding Claim~~,
30 wherein the conduit comprises a hollow tubular member
31 of resilient plastics material, the first valve

1 comprising a flattened end portion of the hollow
2 tubular member, the flattened end portion comprising
3 two opposing walls held in contact with each other by
4 the resilience of the plastics material and adapted
5 to move out of contact with each other when the
6 hollow tubular member is subject to internal pressure
7 to allow the passage of said additive material
8 therethrough.

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10 9. An apparatus according to Claim 8, wherein the
11 flattened end portion is formed by applying heat to
12 the tubular member.

13 *Claim 8*
14 10. An apparatus according to ~~Claim 8 or 9~~, wherein
15 the two opposing walls are substantially planar.

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17 11. An apparatus according to Claim 8 ~~or 9~~, wherein
18 the two opposing walls are arcuate in transverse
19 section, the outer surface of a first one of the
20 opposing walls being in contact with the inner
21 surface of the second one of the opposing walls.

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23 12. An apparatus according to Claim 8 ~~or 9~~, wherein
24 the flattened end portion comprises one or more
25 transverse folds.

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27 13. An apparatus according to Claim 8 ~~or 9~~, wherein
28 the flattened end portion is curved, bent or rolled
29 about a transverse axis.

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1 14. An apparatus according to any one of Claims 1 to
2 7 wherein the first valve comprises a plug means
3 adapted to be ejected from the conduit when the
4 pressure in said conduit is greater than the pressure
5 in said liquid.

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7 15. An apparatus according to Claim 7 wherein the
8 second valve comprises a plug means adapted to be
9 propelled along the conduit when the pressure in said
10 conduit is greater than the pressure in said liquid,
11 thereby causing the additive material to be ejected
12 from the conduit.

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15 16. An apparatus according to ~~any one of Claims 1 to~~
16 7 wherein the first valve comprises a poppet valve ~~or~~
17 ~~similar~~.